



PS Flood Barriers™
Solutions That Hold Water

OPERATIONS & MAINTENANCE MANUAL

SELF-CLOSING FLOOD BARRIER MODEL: SCFB-590



To Contact PS DOORS:

By Mail: PS DOORS
Attn: PS Flood Barriers
1150 S. 48th Street
Grand Forks, ND 58201

Website: psdoors.com

By Phone: Phone 1-701-746-4519
Toll Free 1-877-446-1519

By Email: 4psinfo@psdoors.com

Hours of Operation: 8:00 am to 5:00 pm (Central Standard Time); Monday thru Friday

Drawing No.: _____

Manufactured By:
PS DOORS
1150 S. 48th Street
Grand Forks, ND 58201
www.psdoors.com

If you need to contact Customer Service

Please complete the following information and retain for future reference:

Serial Number: _____

Purchase Date: _____

PS DOORS Job Number: _____

Contractor: _____

Project Name: _____

For Customer Service

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Complication and Publication Notice

This manual has been compiled and published covering the latest product descriptions and specifications.

The contents of this manual and the specifications of this product are subject to change without notice.

PS DOORS reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication.

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LIMITED WARRANTY

PS DOORS warrants this product and components to be free from defects in material and workmanship for a period of one (1) year from date of shipment. If within the term of this warranty, if any Self-Closing Flood Barrier or component is found to be defective upon inspection by an authorized PS DOORS representative, PS DOORS will replace or repair, at PS DOORS' discretion, any part found to be defective. Any field labor charges incurred are the sole responsibility of the customer.

To make a claim under this warranty, contact PS DOORS at the address shown below.

PS DOORS
Attention: Warranty
1150 S. 48th Street
Grand Forks, ND 58201

Toll Free: 800-284-0623
Phone: 701-746-4519
Fax: 701-746-8340
E-mail: 4psinfo@psdoors.com

Unauthorized modification of or to this product voids the PS DOORS Limited Warranty. Accordingly, you can expect any request for warranty repair to be charged to you, if the product requires service after unauthorized modification. Authorized modifications, received in writing from PS DOORS, as long as the modification is accomplished in strict accordance with PS DOORS' instructions, does not void warranty. To request product modifications contact PS DOORS, 1150 S. 48th Street, Grand Forks, ND 58201, phone 877-446-1519, email: 4psinfo@psdoors.com.

PS DOORS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES.

All other warranty's, express or implied including any warranty of merchantability, are expressly excluded. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you.

WARRANTY DOES NOT APPLY TO ANY DAMAGE OR DETERIORATION CAUSED BY MODIFICATION, ABUSE, APPLIED PAINT FAILURE OR FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE.

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

Exclusions:

Seals and/or Gasketing are considered a "wear-item" and are not covered under this warranty.



IMPORTANT! ACTION REQUIRED!

In order to Validate your Warranty the following information must be completed and returned to PS DOORS, failure to completely fill out this information, or to return information to PS DOORS may void warranty.

WARRANTY REGISTRATION

Owner Name: _____ Product: _____
Company: _____ Model: _____
Address: _____ Serial Number(s): _____
City: _____ Date Installed: _____
State/Province: _____ Postal Code: _____
Country: _____

Please answer the following questions:

1. Has the installed product been tested? Yes No
2. Test Witnessed by, Name: _____ Date: _____
3. Product Initial Inspection by, Name: _____ Date: _____

Warranty Registration must be returned to:

- Fax: 701-746-8340
- Email: 4psinfo@psdoors.com
- Mail: PS DOORS
1150 S. 48th Street
Grand Forks, ND 58201

Warranty Registration Information will be used for activation of product warranty only.

Safety precautions

We use the following icons throughout the Operations & Maintenance Manual.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderated injury.



Indicates manufacture's statement of additional information.



Indicates a required action.



Indicates a vital component to product performance.

SELF-CLOSING FLOOD BARRIER; MODEL: SCFB-590

The SCFB-590 is a specially designed Flood Barrier capable of providing flood protection. The SCFB-590 is specifically manufactured to meet the opening dimensions and Water Protective Height (WPH) of each customers' specific site requirements. **DUE TO THE CUSTOM NATURE OF EACH SCFB-590 FLOOD BARRIER, THEY DO NOT ALL LOOK THE SAME. REFER TO INSTALLATION AND CONSTRUCTION DRAWINGS FOR YOUR SPECIFIC INSTALLATION AND OPERATION.**

Please keep these instructions for later reference and read them before attempting any maintenance or operation of the product.

NOTICE

ADDITIONAL INFORMATION

1. No additional allowances have been included for hydrodynamic loads, debris impact loads or wave loads, unless specifically detailed in additional documentation provided.
2. All water pressure loads, impact loads, and operating loads are transferred to the building structure. Building structure design, capacity to accept loads from flood barriers, and evaluation of loads to structure is by others.
3. PS DOORS recommends that the owner implement a regular maintenance program to inspect the gaskets and barrier panels. This program may require the replacement of gaskets; touch up painting and accounting for of all the latching devices.
4. If the water height exceeds the level of any door penetrations or water protective design height, leakage will occur.
5. This product is equipped with compressible seals, which are not dependant on inflation devices.
6. PS DOORS recommends a flood preparedness plan be developed, trained on, and implemented to be activated during times of potential flooding conditions.
7. PS DOORS AND/OR ITS RESPECTIVE SUPPLIERS MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) OR SERVICE(S) OFFERED AND/OR THE PROGRAM(S) AT ANY TIME WITHOUT NOTICE.

IMPORTANT!

Read entire Operations & Maintenance Manual to become familiar with the product.

NOTICE

This product is a flood protective barrier. The effectiveness of the product is directly related to the proper installation and maintenance of this product. Failure to properly maintain this product **will** affect performance.

Product Description

The PS DOORS Self-Closing Flood Barrier, SCFB-590 is to be constructed in accordance with PS DOORS' standard design, specification, and fabrication methods for Custom Flood Barriers.

The following components, in accordance with description provided, are included:

1. **Flood Barrier Panel:** To be fabricated as a reinforced fiberglass buoyant element. Flood door panel to be designed for maximum water height requested above Finished Floor Elevation (FFE). All loads transferred to adjacent structure. This design is subject to a uniformly increasing fluid pressure (hydrostatic pressure loading of water at 62.5 pcf) with a 2:1 design safety factor based on material yield strengths.
2. **Flood Barrier Basin:** To be of PS DOORS' design, fabricated from formed and structural steel sheeting and shapes, welded construction, for field installation embedded within structure. Frame members to be fabricated from structural shapes and formed members installed to existing structure. Field grouting is/may be required.
3. **Gaskets:** To be factory mounted to the flood barrier or frame. Gaskets to be compressible rubber type, field replaceable.
4. **Installation Hardware:** PS DOORS includes all sealants, water-stop, anchors, and hardware necessary for installation of flood barrier as designed. Note: Anchors are engineered for load design and shall not be changed without factory authorization.
5. **Pump Pit:** To be sized for the appropriate requirement of the SCFB-590. All plumbing and electrical by others.
6. **Warranty:** PS DOORS warrants this product and components to be free from manufacturing defects for a period of one (1) year from date of shipment. See warranty document on page 3 of this document.

The following information is available upon request:

- Structural Calculations: A copy of PS DOORS' design calculations by a qualified engineer, to verify the flood barrier's ability to withstand the design loading, is available upon request.

The following optional services are available upon request:

- Optional: Registered professional engineer stamped calculations from within the state or territory where the building will be constructed or substantially improved are available at additional cost.

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IMPORTANT! Read entire Operations and Maintenance Manual to become familiar with the product.

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1. GENERAL INFORMATION

This manual contains information regarding operation and maintenance of custom water resistant flood barrier assemblies.

This product is manufactured to specific guidelines. Unauthorized alteration in any way will result in voiding Factory Warranty, and may cause product to fail.

2. OPERATION GUIDELINES

The following procedures and information are supplied for the operation of the SCFB-590 Self-closing Flood Barrier assemblies. Operation in a manner other than intended could result in damage or less than acceptable performance at time of need, for which the manufacturer will not be held responsible.

Always plan for potential leakage and condensation that can occur during flooding conditions.

3. SAFETY PRECAUTIONS

- Ensure opening is clear of all obstructions or debris during operation.

WORKING PRINCIPAL OF THE SCFB-590

- Once the SCFB has been installed, the buoyant flood barrier wall, is practically invisible during non-flooding conditions.
- On top, a steel lid closes off the basin to protect the buoyant flood barrier and deflect debris. *See illustration 1.*
- Once the water rises to the predetermined activation flood level, the basin of the Barrier fills up through a filling-pipe in the inspection/pump pit. The buoyant flood barrier wall rises and floats. As soon as the basin is totally filled, the closing surface will engage the jamb gaskets providing for the flood protection. *See illustration 2.*
- Now the flood water can rise further without flooding the protected area. *See illustration 3.*
- Once the flood water level subsides to a normal level, the basin is drained through a drain pipe with one way check valves or by means of a pump.
- Once the water has left the basin, the wall returns to its resting position within the basin.

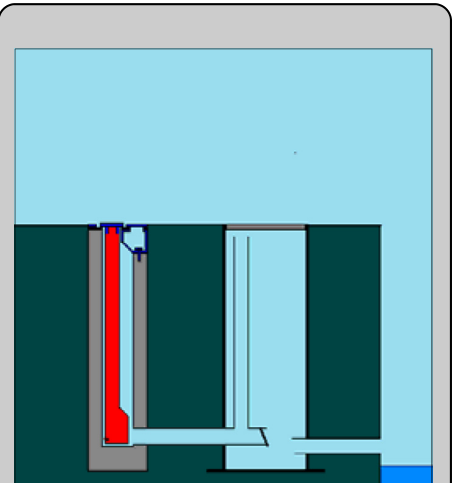


Illustration 1.

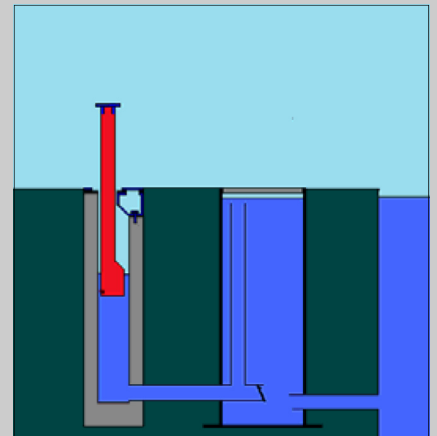


Illustration 2.

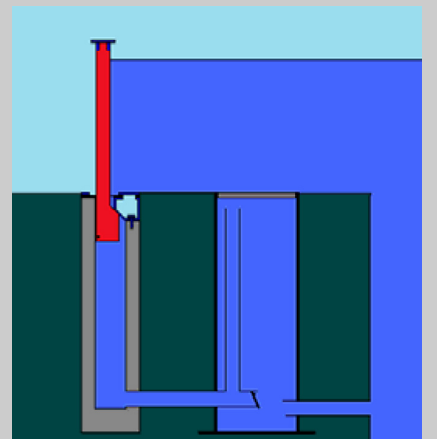


Illustration 3.

4. OPERATION UNDER FLOODING CONDITIONS

- **Pre-flooding or Potential Flooding Conditions:**
 - At a minimum, conduct Inspection and Maintenance activities as described in this Operations & Maintenance Manual.
- **Flooding Conditions Present:**
 - Self-Closing Flood Barrier is activated and placed by the rising flood waters.
 - If feasible, check SCFB-590 for leakage or condensation accumulation.
- **Post-flooding Conditions:**
 - At a minimum, conduct Inspection and Maintenance activities as described in the Operations & Maintenance Manual.

5. INSPECTION AND MAINTENANCE

- **Jambs, Frames, and Embedded items:**
 - Inspect items for damage and misalignment. Adjust, repair, or replace as needed, to meet original design tolerances.
 - Check all embedded connections, making sure they meet original design standards (*refer to original product drawings*).
- **Fasteners and mechanical connections:**
 - All fasteners must be in place and adjusted to their original design standards. Replace any damaged components (*refer to original product drawings*).
- **Sealants and Water-stops:**
 - Inspect all sealants used on frames and connections to insure their effectiveness. Replace any cracked, loose, or otherwise non-performing sealants.
 - Use only factory approved/supplied products.
- **Gasketing:** Check all gaskets around perimeter of opening.
 - Inspect for gasket and corner splice damage, and for continuous adhesion to the attached surface.
 - Visually inspect all gaskets for proper positioning and compression.
 - Replace or repair if damage or deterioration to gaskets has occurred.
 - Use only factory approved materials (*refer to installation drawings/information*).
- **Finishes:**
 - Inspect and clean finishes periodically.
 - Touch-up/repair finishes, or refinish as necessary to protect the structural integrity of the product.
- **Labels and Placards:**
 - Inspect all labels and placards. Replace any labels and placards which are unreadable.
- **Housekeeping:**
 - Clean sill and jambs of any debris and keep the area clean throughout barrier opening.

NOTICE PS DOORS recommends all facilities subject to flooding conditions, and employ any type of flood protection have a **Flood Preparedness Plan** in place for activation prior to, or in times of flooding conditions.

IMPORTANT! Consult drawings before replacing fasteners, as most have specific design load requirements.

CRITICAL Gaskets are a critical component of the flood protective barrier performance and must meet minimum compression tolerances in the latched position.

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• **RECOMMENDED PREVENTATIVE MAINTENANCE SCHEDULE**

| Item | Description | Frequency |
|------|---|-----------|
| 1. | Hydrostatic testing of each complete system from Pump Pit to SCFB unit(s) by filling the system with water. | 12 Months |
| 2. | Visual inspection of seals at ends of Flood Barrier | 12 Months |
| 3. | Cleaning/removal of debris from Top Closing Plate recessed channels. | 12 Months |
| 4. | Testing and cleaning of non-return flap valves in pump pit. | 6 Months |
| 5. | Cleaning of debris from intake structure/catch basin. | 6 Months |
| 6. | Cleaning/Removal of silt/debris from Pump Pit. | 6 Months |
| 7. | Testing of Submersible Pump | 3 Months |

**REFER TO INSTALLATION AND
CONSTRUCTION DRAWING FOR
PRODUCT INSTALLATION AND
DETAIL.**

NOTICE PS DOORS recommends all facilities subject to flooding conditions, and employ any type of flood protection have a **Flood Preparedness Plan** in place for activation prior to, or in times of flooding conditions.

QUESTIONS?

Contact the PS DOORS at 1-877-446-1519 or 1-701-746-4519.

